Abstract Submitted
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Relativistic Corrections for Asteroseismology to First Post-Newtonian Order[1] REECE BOSTON, CHARLES EVANS, Univ of NC - Chapel Hill — In light of the precision available from the K2 and TESS missions in determining stellar pulsation periods, general relativistic effects are in principle measurable contributors in white dwarf light curves. We provide a demonstration of the appearance of general relativistic effects by considering initially simplified polytropic models for stars of mass and radius comparable to white dwarfs. Relativistic effects are calculated to sufficient accuracy using a first post-Newtonian (1PN) correction to the standard Dziembowski form of the pulsation equations. Background models and linear nonradial pulsations are calculated in both the 1PN and Newtonian regimes and the periods of g-modes and p-modes are compared. Future work will include more astrophysically accurate white dwarf models with g-modes confined near the stellar surface.

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